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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/757,187

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10/30/2006

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EXAMINER

MARTINEZ, DAVID E

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/757,187	Applicant(s) KRAVEC ET AL.	
	Examiner David E. Martinez	Art Unit 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 24-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 24-32 is/are rejected.
- 7) ☒ Claim(s) 1-13 and 24-32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Fritz Fleming
FRITZ FLEMING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100
10/15/2006

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/14/04 5/11/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION***Election/Restrictions***

Applicant's election with traverse of Species 1 (claims 1-12 and 24-32) in the reply filed on 10/9/06 is acknowledged. The traversal is on the ground(s) that "claims 14-23 and 33-41 are directed to a method using the parallel pattern detection engine defined in claims 1-13 and thus these claims are not patentable distinct from claims 1-13 and the restriction is not proper" and that "these are method claims and should be examined as a single group. This is not found persuasive because species 2 (claims 14-23) and species 3 (33-41) are directed to distinct methods that can be used with processing units (could be any processing unit) and don't necessarily have to be used with the particular pattern detection engine defined in species 1. Species 2 and 3, being shown in figures 4 and 9 respectively, are independent or distinct due to their different features as stated in prior election/restriction requirement in the office action dated 9/20/06, thus all of the claims should not be examined as a single group. Furthermore, the cancellation of species 2 (claims 14-23) and species 3 (33-41) takes precedence over the traversal thus arguments are rendered moot.

The requirement is still deemed proper and is therefore made FINAL.

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

Claims 1 and 24 are objected to because of the following informalities:

In claim 1, the use of the term "M processing units" in line 14 is inconsistent with the use of the term "M PUs" having the same meaning, as shown in lines 4, 5, 9, 15 and 19-21.

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In claim 24, the use of the term "M processing units in line 17 is inconsistent with the use of the term "M PUs" having the same meaning, as shown in lines 7, 8, 12, 18 and 22-24.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 and 24-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regards to claim 1, in line 6, the term "...wherein an address pointer selecting the pattern..." renders the claim indefinite because the function of an address pointer per se is not for selecting anything, but for pointing to an address or memory location. The Examiner interprets this term more closely to "...wherein an address pointer pointing to/referencing the (stored?) pattern, is used to select the pattern...". In addition in line 7, the term "...is modified in response..." is indefinite since it's not clear if it is referring to the address pointer being modified or to the (stored?) pattern being modified (the address pointer and the pattern found in line 6).

With regards to claims 2-13, due to their dependency from claim 1 above, they suffer from the same deficiencies and thus are rejected under the same rationale.

With regards to claim 24, in lines 9-11, it suffers from the same deficiencies as claim 1 and thus is rejected under the same rationale. Furthermore, the terms "the sequence of input data" (in line 8 and in line 12) and "the pattern data" (in line 9 and in line 11), lack antecedent basis.

With regards to claims 25-32, due to their dependency from claim 24 above, they suffer from the same deficiencies and thus are rejected under the same rationale.

Due to the vagueness and a lack of clear definiteness in the claims, the claims have been treated on their merits as best understood by the examiner.

Allowable Subject Matter

Claims 1-13 and 24-32 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter:

With regards to claim 1, the cited prior art alone or in combination fail to teach or fairly suggest M processing units (PUs), each of the M PUs having compare circuitry for comparing each of the sequence of input data to a pattern stored in each of the M PUs and generating a compare output, wherein an address pointer selecting the pattern in each of the M PUs is modified in response to a logic state of the compare output and an operation code stored with the pattern; an input bus for coupling the sequence of input data to each of the M PUs in parallel; an output bus coupled to the I/O interface for sending output data to the I/O interface; control circuitry coupled to the I/O interface and coupling control data on a control data bus and identification (ID) on an ID bus to each of the M processing units; ID selection circuitry for selecting a match ID from ID data identifying the M PUs in response to a pattern match signal and match mode data, wherein the match ID and match data corresponding to the match ID are saved in a temporary register as the output data; and cascade circuitry coupled from each of the M PUs to one or more adjacent PUs within the M PUs for selectively coupling chain data between one or more groups of two or more adjacent PUs selected from the M PUs in response to the control data, in combination with the other elements in the claim.

With regards to claim 24, is indicated as having allowable subject matter for the same reasons as claim 1 above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The cited art below teaches pattern searching and recognition, some using parallel systems, in different environments such as photo imaging, signal sensing among others:

US Patent Application Publication No. US 20040215593A1 teaches pattern matching and comparison operations on large data sets.

US Patent No. 5,548,775 to Hershey teaches a high speed, serial pattern detector, uses parallel finite state machines to analyze sequential bits in a serial bit stream. Single bit random access memories store the single bit of the next address to be used in detecting the sequence.

US Patent No. 5,014,327 to Potter et al. teaches recognizing a data pattern comparing a pattern in memory.

US Patent No. 5,051,947 to Messenger et al. teaches using a single specialized search processor doing pattern recognition on a set of data.

US Patent No. 5,657,396 to Rudolph et al teaches using pattern identifications and pattern comparators to recognize the match of pattern data.

US Patent No. 6,587,852 to Svingen et al. teaches a processing circuit for recognition and comparison of complex patterns in high-speed data streams, particularly for use in search engines for search and retrieval of data stored in structured or unstructured databases.

US Patent Application Publication No. US 20030229636A1 to Mattaush et al. teaches determining a pattern match, of the reference patterns in a database, which is a most similar (nearest distance) to an input pattern.

US Patent No. 6,675,163 to Bass et al. teaches methods and apparatus for finding a full match between a search pattern and a pattern stored in a leaf of the search tree.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Martinez whose telephone number is (571) 272-4152. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on 571-272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DEM

Fritz M. Fleming
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10/25/2006